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ZOOLOGY IN THE A. E. F.

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THE sudden halt in the war left approximately two million Americans stranded in Europe with the chief object of their exile and with the stimulus and the real need for work gone. It was quite obvious, whatever the temporary belief of those prevented from returning, that it would take some time to reverse the concentrated efforts to build up a mighty force in France and return the individuals to their homes. Marking time with no point in view would shortly bring discontent and disorder.

The gathering together of the large group of young men from the entire country and their subsequent examination had shown an almost unbelievable lack of uniform or satisfactory education. Indeed in far too many cases schooling had never been a factor in the individuals' lives. Clearly such conditions are not to the advantage of the nation. It was then with the intention of keeping the men engaged in work of the greatest interest not only to the nation but to themselves that the Army Educational system of the American Expeditionary Force was started. The opening paragraph of the orders (G. H. Q., A. E. F., G. O. No. 30) authorizing the opening and equipping of these schools expresses the view of the responsible officers.

1. The commander in chief invites the attention of organization commanders and of all officers in the American Expeditionary Forces to the importance of national education. The citizen army must return to the United States prepared to take an active and intelligent part in the future progress of our country. Educational and occupational training should therefore be provided to meet the needs of the members of the American Expeditionary Force in order that they may be better equipped for their future responsibilities.

Beyond the immediate occupation of the men in useful work the directors had in mind an experiment in national education the results of which might be of value in developing a similar plan in this country.

All grades of education were provided from primary to the highest type of academic teaching. It is with the latter that the present paper will chiefly deal. French and British uni-

versities opened their halls to Americans (chiefly college graduates) whose training fitted them for the work given but the greater need was for the continuation of the training of those soldiers whose higher professional education had been interrupted by the war. To meet this need the American E. F. University was founded at Beaune, Cote D'Or, France, a quite charming town whose inhabitants did much to make the sojourn of the Americans a thing to be remembered.

The near-by forest-covered hills and vineyards made (when the rains stopped) an exceedingly picturesque background or campus and possibilities of beautiful walks were well realized. It is the purpose of the following article to attempt to picture the development of an American educational institution of collegiate rank on foreign soil with a staff and equipment drawn almost exclusively from the army. This can be done most satisfactorily by considering the conditions met chiefly by the department with which the writer was connected and with which naturally he was most familiar, namely, the department of zoology. Beaune had been selected as the site for the university because of the location just without the town limits of an American Hospital Center which had been built in anticipation of the great drive which the Armistice fortunately prevented.

Those who arrived in February shortly after the first group had taken up their duties at Beaune found the situation far from promising. The steady rains, the poorly developed and muddy roads through the camp and the apparent general lack of preparedness were sufficient to dampen any one's enthusiasm. The complaints of many who had been ordered to teach when expecting orders home were couched in terms more generally used in the American Expeditionary Force than in America. Some were disgusted and some insulted by the conditions and state in which they found themselves. They didn't believe that much could result from Army education. One officer arrived seething after having been asked by telephone if he would come and had understood that the invitation was to give a course of lectures at the Sorbonne. The latter setting rather pleased his fancy and would look well in print at home and the collapse following the receipt of orders and the realization that his lectures must be presented far from Paris did not tend to sweeten his temper. It was frequently postulated and with some reason that the soldier student who came would be actuated more by the relief from the tedium of drill than the opportunity offered for education and that consequently the teachers would be wasting their time.

Despite pessimism operations moved ahead with remarkable speed. The draughting rooms were busy day and night drawing and blue printing plans for the subdivision of the buildings according to the desires of the departmental heads, the engineers were carrying out the work rapidly and well (the partitions being of heavy cardboard), labor gangs were turning the roads into something worthy of the name and the faculty was threshing out policy, organization, courses, ordering books and all the rest of the academic detail. Literally a complete university was to be raised from the mud and this in a hurry. Everything from buildings to equipment had to be developed in the minimum time and instructors had to be found somewhere in the American Expeditionary Force. In the interesting way in which in Army affairs the right men for certain places gradually come along a rather well balanced teaching staff was soon assembled. Illustrative of the training and experience of the faculty in general was the group that finally gathered together to teach zoology.

- A. H. Bayer, B.S. (Michigan Agricultural College), private, assistant in zoology in the American E. F. University.
- Wendell Lowell Bevan, B.S. (Agricultural College of Colorado), captain Field Artillery, instructor in the Agricultural College of Colorado and instructor in entomology in the American E. F. University.
- Robert T. Hance, M.A., Ph.D. (University of Pennsylvania), first lieutenant Sanitary Corps, assistant in zoology in the University of Pennsylvania and chairman of the Department of Zoology and instructor in genetics and microscopical technique in the American E. F. University.
- Hovey Jordan, M.S. (Harvard) first lieutenant infantry, Austin fellow Harvard Graduate School. Instructor in histology and embryology in the American E. F. University.
- Homer O. Moser, B.A. (Bluffton College, Ohio), sergeant, Medical Corps, instructor in science and mathematics in the Arlington High School, Illinois and assistant in zoology in the American E. F. University.
- Richard A. Muttkowski, Ph.D. (University of Wisconsin), corporal signal corps, Instructor in zoology in the Kansas State Agricultural College and instructor in elementary zoology and comparative anatomy in the American E. F. University.
- Don C. Simkins, B.S. (Denison University), private first class, instructor in science in Middletown, Ohio, and assistant in zoology in the American E. F. University.

These men had largely been ordered to Beaune on the strength of the record of their previous occupation indicated on their qualification cards and made an interestingly well balanced group in regard to their zoological interests. Fortunately these men believed from the start in the practicability of the work in which they were engaged which aided greatly in speeding up the progress of development. It was interesting to note the change

in attitude that many of the early pessimists underwent as the apparent impossibilities commenced to turn into realities.

Few departments had any conception as to the desirable courses to offer and no idea as to the number of students to plan for. In zoology the courses finally agreed upon were, elementary zoology, economic zoology (this course was never given), microscopical technique, advanced zoology (in which it was planned to arrange work to meet the needs of advanced students), genetics, agricultural entomology, histology and embryology. All work, except in the last two subjects, was planned on the five hour per week basis the laboratory periods being of two hours duration. It was desired as far as equipment and supplies were available to have the courses compare favorably with similar ones in the best American institutions and in general, I believe, this hope was realized. Histology and embryology were probably quite unsatisfactory to their instructor owing to the frequent shifting of the students by the college of medicine from which the courses drew most of their members. Had the life of the university lasted for another term of three or four months it is safe to say that all courses could have been exceedingly satisfactorily presented.

The department of zoology was fortunate in being able to find much necessary equipment on the grounds in the supply depot of the hospital center. This sufficed until the larger order from the main supply depot arrived about the middle of the term. It is not an exaggeration to claim that when the latter was unpacked the department was equipped as are few zoological laboratories in American universities. The photographs of stock room and laboratories give some evidence of this. All supplies were drawn from supply depots of the United States Medical Corps and were not specially purchased for the university. Among other instruments we had large numbers of scalpels and scissors of various sizes (sufficient to equip over two hundred students at one time), about one hundred and twenty microscopes fitted with oil immersion lenses and mechanical stages (machines worth about one hundred and forty dollars apiece to-day), seventeen new microtomes, two fine balances and so on through a long list of articles.

To expedite development members of the staff manufactured many things needed ranging from blackboards to erasers, platforms and reading stands. Heavy oak tables were supplied by the quartermaster and made excellent laboratory benches. Thousands of substantial folding chairs were available. Little trouble was experienced in collecting dissecting material.

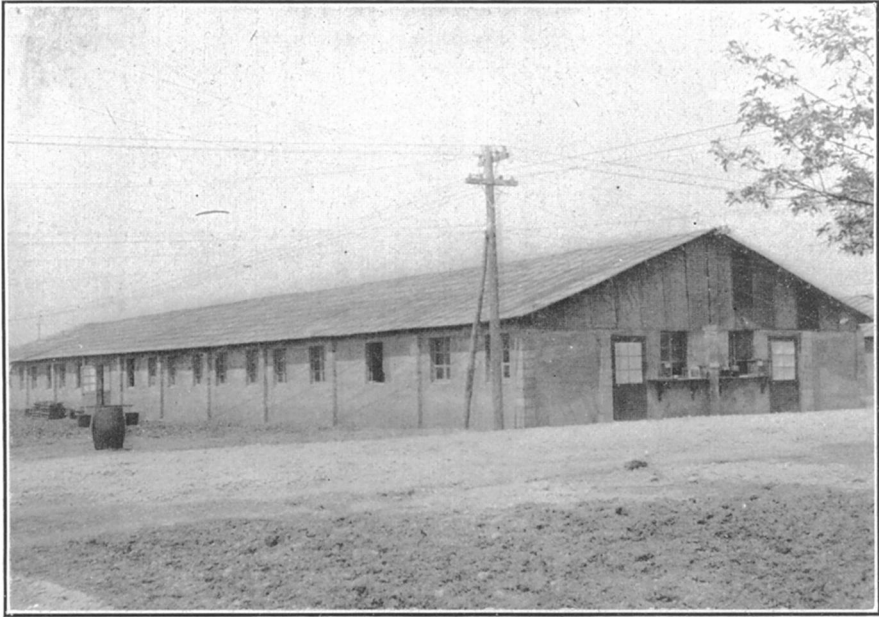


FIG. 1. THE ABOVE PICTURE ILLUSTRATES THE TYPE OF ONE-STORY CONCRETE BUILDING WHICH HOUSED THE VARIOUS DEPARTMENTS OF THE AMERICAN E. F. UNIVERSITY AT BEAUNE, COTE D'OR, FRANCE. In the above building the Departments of Botany, Psychology and Zoology were located. These structures were approximately forty feet wide by one hundred and sixty feet long.

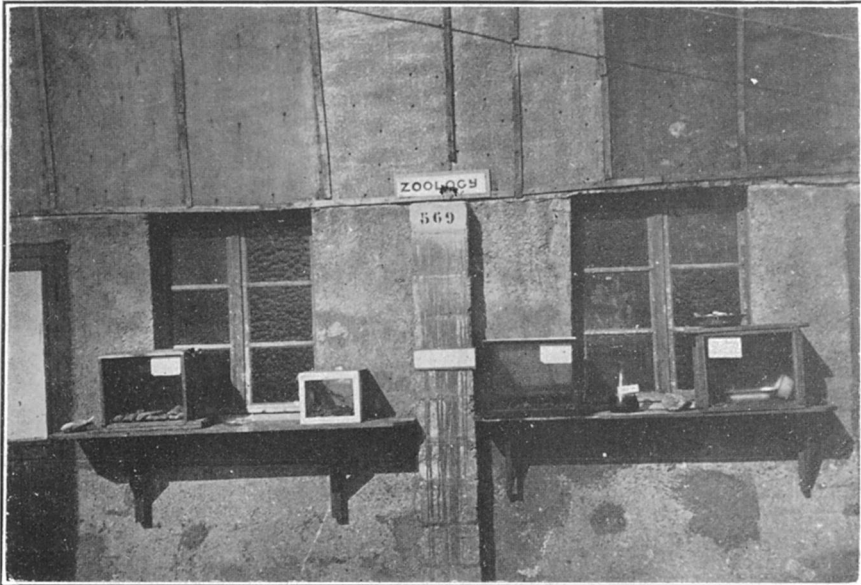


FIG. 2. A CLOSE VIEW OF THE FRONT OF THE ZOOLOGICAL LABORATORY WITH AQUARIA AND CAGES CONTAINING THE FAUNA OF THE REGION.



FIG. 3. THE INTERIOR OF THE BUILDING SHOWN IN FIG. 1 BEFORE SUBDIVISION INTO ROOMS.

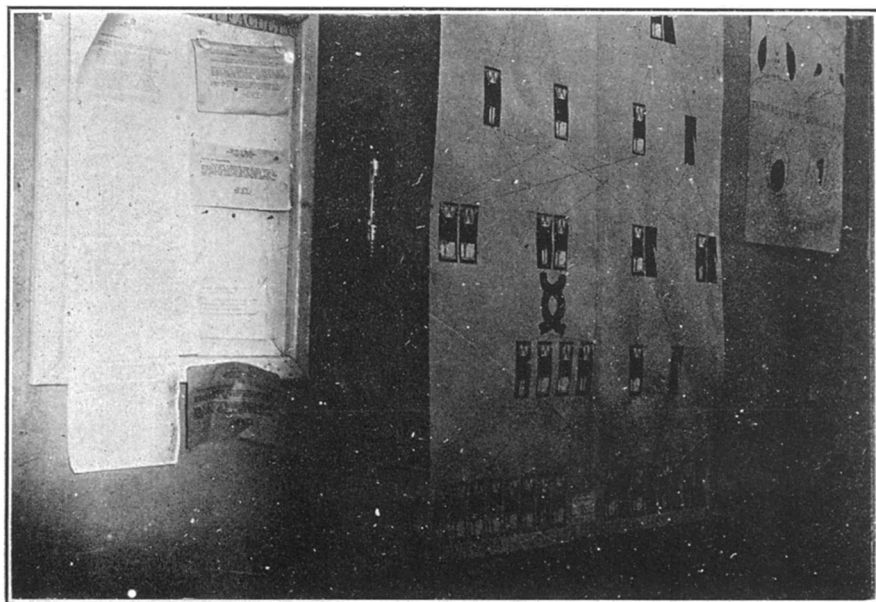


FIG. 4. THE WALLS OF THE HALL OF THE ZOOLOGICAL LABORATORY WERE COVERED WITH CHARTS DRAWN BY THE STUDENTS.

Within the confines of the camp was a large shallow pond in which great numbers of toads were spawning. It was a matter of but a couple of hours work at night to collect several hundred. Frogs were few and we did not catch more than a half dozen during our stay. The early spring with its heavy rains brought an abundant supply of big earthworms to the surface of the earth. A little later moles and mole crickets appeared in considerable numbers and were readily caught. Carp and pigeons could be bought in the game store in Beaune and there are probably few places in the world where a supply of cats and dogs are not available. Several hedgehogs were captured in

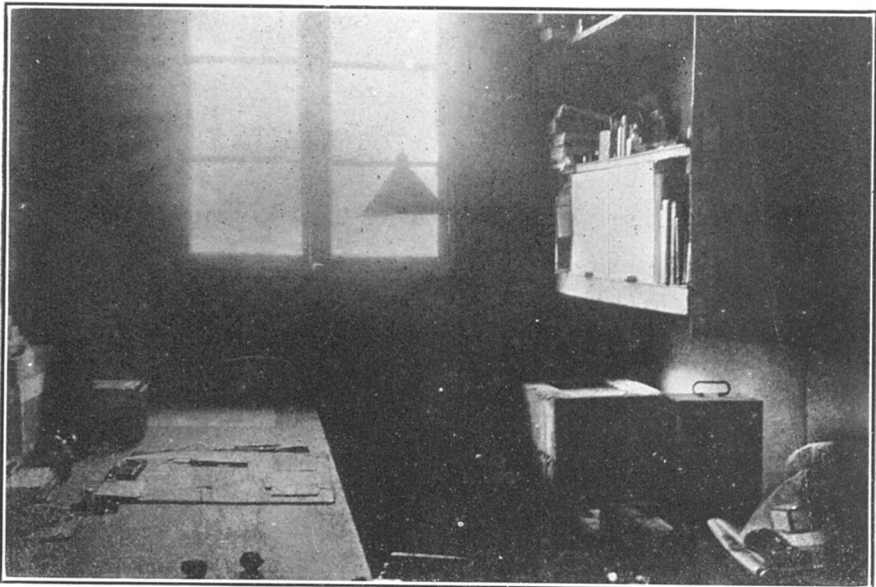


FIG. 5. A PRIVATE OFFICE.

April and May. The fauna was so interesting that shelves were put in front of the laboratory building and cages and aquaria were set up to hold the various animals brought in. Descriptions in French and English of the habits of the various forms were attached to the exhibits and this little zoo had a constant stream of visitors from early morning until late at night when I have seen would-be spectators striking matches to see what the "exhibits" were doing or to determine whether the toad and the snake still lived separately. It might be added to the credit of the snake that he at last got into the spirit of the affair and lived up to expectations. For several days thereafter the snake showed a considerable swelling in the middle of his

body suggesting the biological analogy that if base metals can not be transmuted into gold at least amphibians can be converted into reptiles.

A considerable number of excellent charts were made by certain students who preferred to put in the hour a day required in some service for the university in this manner. Since text-books in sufficient number for class use never arrived the charts were excellent teaching aids. The lack of class texts was not a serious handicap and the library was able to provide us with a number of well-known and valuable reference works which the department ordered earlier in the term.

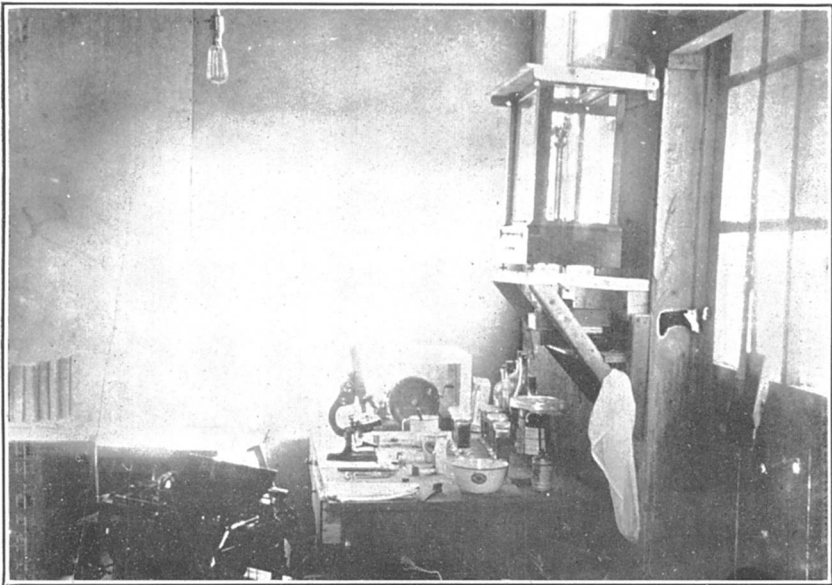


FIG. 6. A PRIVATE LABORATORY.

The largest number of students handled in the various courses was about two hundred and twenty-five, though toward the end the number was reduced to about one half through the departure of the men to join their Divisions which were returning to the States. It was the consensus of the instructors' opinions that though many of the students may have come to loaf they remained to work and that they had seldom had more interested audiences. Special lectures on the broader aspects of zoology were given in the evenings by members of the staff and attendance was voluntary and good. Though the interest and apparent caliber of the students were really high the results of the final examinations were disappointing. This it was believed might be due to any one or any combination of following



FIG. 7. A CORNER OF THE STOCK ROOM AFFORDING SOME CONCEPTION OF THE QUANTITY OF SUPPLIES ON HAND.



FIG 8. THE TOOL ROOM.

factors: the men were too recently from the unsettling conditions of war and army life to be able to take up serious and systematic study; that the little time or opportunity for evening work was possible because of the barrack living conditions and in some cases to more or less unnecessary evening inspections by certain group commanders and, lastly, the weather toward the close of the term was so delightful and such a welcome contrast to what it had been for about six months that every one wanted to be out of doors as long as possible.

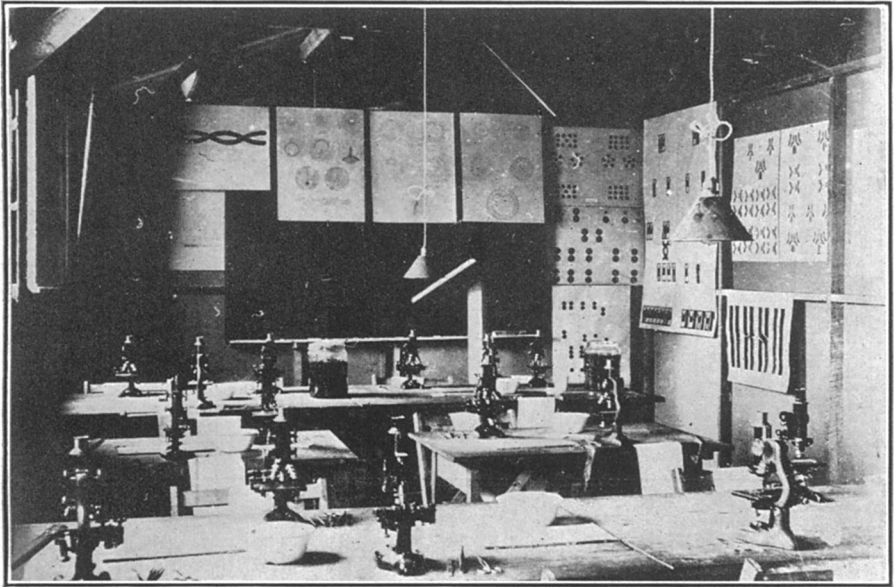


FIG. 9. THE LABORATORY OF ELEMENTARY ZOOLOGY.

A very broad policy was formulated by the university of permitting forty-eight hour week-end passes of which all could avail themselves for trips to places of interest. To nearby towns truck or automobile transportation was available for special trips. The class in elementary zoology made one such trip in trucks of about eighty or ninety kilometers to Dole, the birthplace of Pasteur. The classes in botany were able to journey into the French Alps on a collecting expedition.

It is not to be inferred though that there were not some whose work was as consistent and as good as it would have been in America. At least one individual found the subject (zoology) sufficiently fascinating to signify his intention of entering the field permanently when he returned to the United States. Others worked outside of class hours in order that they might



FIG 10. THE LABORATORY OF HISTOLOGY AND EMBRYOLOGY.

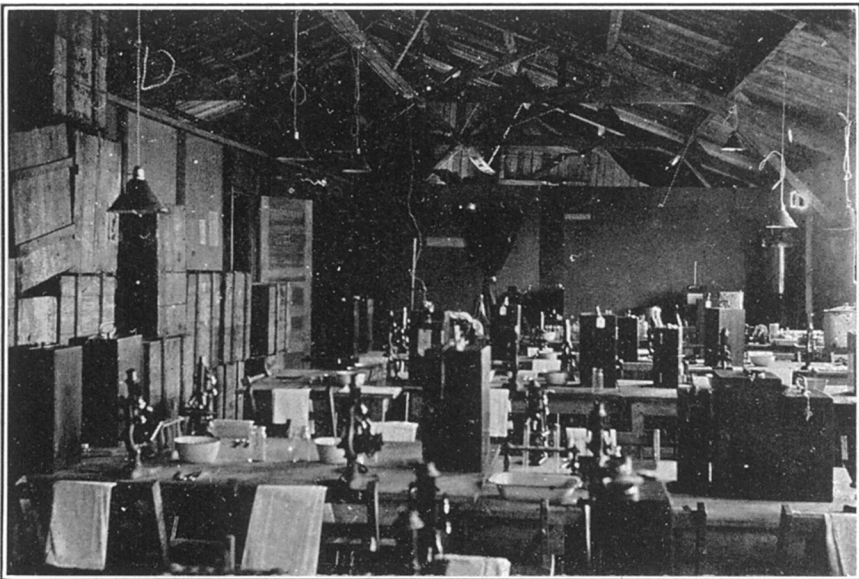


FIG. 11. THE LABORATORY OF COMPARATIVE ANATOMY AND MICROSCOPICAL TECHNIQUE. The crates to the left of the picture contain unpacked equipment, chiefly microscopes.



FIG. 12. THE FACULTY OF THE COLLEGE OF SCIENCE.

get some experience in the use of instruments and methods that they thought were going to be of value to them in the work they intended carrying on at home. If these few were really reached it is fair to conclude that the brief operation of an American University in France demonstrated its practicability since it is but a small group that we are able actually to influence in normal teaching.



FIG. 13. TRUCKS CONTAINING ZOOLOGY STUDENTS ON THE WAY TO DOLE, THE BIRTH-PLACE OF PASTEUR.

That the experiment was a success I think it safe to assert. That the students at large gained in a knowledge of the general if not always of the detailed content of the various fields of study was obvious and such being the case they could the more readily determine their reactions to these subjects and whether a pursuance of them in America would be congenial. More than this could scarcely be accomplished in the brief time available and if this was consummated the attempt at higher education in connection with the Army in France was, as claimed above, successful.

To the instructors, both commissioned and non-commissioned men, the getting back into educational surroundings and into what developed into a very fair academic atmosphere with a minimum of the military was a very delightful and a not soon to be forgotten experience. The almost complete absence of

that type of small-town, hopelessly provincial person who did so much to hurt the American reputation for fair play by refusing to admit any virtue to any foreign custom, people or scene was most cheering. Many of us had been commencing to wonder whether the vaunted broadmindedness was not a brain child of imaginative Americans. Fortunately the congregation of several hundred representative educated men completely dispelled this idea.

For the reasons indicated the writer considers the attempt to operate an American Army University in France as generally successful and a great credit not only to those leaders who built the institution but also to the American spirit of accomplishing what it starts out to do. This view recognizes the certain inherent difficulties of uniting educational work with military life and considers the difficulties to have been counteracted to a considerable degree by the uniqueness of the situation. Whether in a national scheme of militarized education the advantages will continue to outbalance the disadvantages is largely a matter of personal opinion and a subject too lengthy to permit of discussion here. Certainly though, we need a national and a standardized or uniform system of education.